4. Conclusions

There are several reasons supporting the recommendation to use component-based approaches that assume additive joint toxic action in exposure-based assessments of possible noncancer or cancer health hazards from oral exposure to mixtures of CDDs, hexachlorobenzene, *p,p'*-DDE, methylmercury, and PCBs. There are no direct data available to characterize health hazards (and dose-response relationships) from mixtures containing all five components. PBPK/PD models have not yet been developed that would predict pertinent target doses of the components under scenarios involving exposure to mixtures of all five components. Finally, available information on toxic actions of the individual components indicates that joint actions of CDDs, hexachlorobenzene, *p,p'*-DDE, methylmercury, and PCBs on several toxicity targets are plausible, including nervous system development, immune functions, reproductive organ development, and cancer.

Epidemiological studies of possible health hazards associated with consumption of fish likely to have been contaminated with these chemicals identify altered neurological development as a possible health hazard, but do not establish causal relationships and are not useful for exposure-based assessments of health hazards specific to a community or an exposure scenario.

Weight-of-evidence analyses of available data on the joint toxic action of mixtures of these components indicate that scientific evidence for greater-than-additive or less-than-additive interactions among these components is limited and inadequate to characterize the possible modes of joint action on most of the pertinent toxicity targets. Therefore, it is recommended that additivity be assumed as a public health protective measure in exposure-based assessments of health hazards from exposure to mixtures of these components.